



This is a repository copy of *Responding to mental health needs after terror attacks*.

White Rose Research Online URL for this paper:
<http://eprints.whiterose.ac.uk/148486/>

Version: Accepted Version

Article:

Allsopp, K., Brewin, C.R., Barrett, A. et al. (4 more authors) (2019) Responding to mental health needs after terror attacks. *BMJ*, 366. 4828. ISSN 0959-8138

<https://doi.org/10.1136/bmj.l4828>

© 2019 The Authors. This is an author-produced version of a paper subsequently published in the *BMJ*. Uploaded in accordance with the publisher's self-archiving policy. See: <https://doi.org/10.1136/bmj.l4828>

Reuse

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



eprints@whiterose.ac.uk
<https://eprints.whiterose.ac.uk/>

Responding to mental health needs after terror attacks

Kate Allsopp,¹ Research Associate, Chris R Brewin,² Emeritus Professor of Clinical Psychology, Alan Barrett,^{3,4} Consultant Clinical Psychologist, Richard Williams,⁵ Emeritus Professor of Mental Health Strategy, Daniel Hind,⁶ Reader in Complex Interventions, Prathiba Chitsabesan,^{7,8} Consultant Child and Adolescent Psychiatrist, Paul French,^{9,10} Clinical Researcher.

¹ Complex Trauma and Resilience Research Unit, Greater Manchester Mental Health NHS Foundation Trust, Manchester Academic Health Science Centre, Manchester, UK

² University College London, London, UK

³ Manchester Resilience Hub, Pennine Care NHS Foundation Trust, Manchester, UK

⁴ School of Health Sciences, University of Salford, Salford, UK

⁵ Welsh Institute for Health and Social Care, University of South Wales, Pontypridd, UK

⁶ School of Health and Related Research, Sheffield, UK

⁷ Young People's Mental Health Research Unit, Pennine Care NHS Foundation Trust, Manchester, UK

⁸ Division of Psychology and Mental Health, School of Health Sciences, University of Manchester, Manchester, UK

⁹ Research and Innovation Department, Pennine Care NHS Foundation Trust, Manchester, UK

¹⁰ Faculty of Health, Psychology and Social Care, Manchester Metropolitan University, Manchester, UK

Correspondence to: K Allsopp kate.allsopp1@nhs.net

Provenance statement: Not commissioned; externally peer reviewed

Serious problems identified after the 2005 London Bombings still remain, argue **Kate Allsopp and colleagues**

Mental health responses for people caught up in terror attacks are often inadequate. Internationally, existing services repeatedly fail to identify those with short and long term needs, resulting in an increased prevalence of post-traumatic stress disorder, depression, and anxiety disorders compared with the general population.¹ Health services should plan for short and longer term psychosocial care and mental health treatment for the substantial minority who need interventions.² But the UK has been slow to learn. Many shortcomings in the response to the 2005 London bombings remained at the time of the 2017 Manchester Arena bombing, despite proposals for a new approach. Here, we discuss how services have evolved since 2005 and what still needs to be done.

Planning a mental health response

The demographics of the affected population are central to the design of any mental health response (box 1). The organisational challenges include specifying a responsible lead and chain of command; obtaining funding; providing reassurance, guidance, and messaging on trauma responses aimed at health services, other organisations, and the public; and identifying those affected and creating information handling arrangements that are flexible but compliant with data protection legislation. Coordination of a cross-agency response, involving health services, the third sector, and voluntary organisations is necessary to identify people who may develop mental health needs, arrange equitable access to evidence based care, and monitor use and outcomes.

Box 1: Matching the mental health response to the population affected by mass casualty incidents

- Localised versus dispersed populations. Dispersed populations require extensive efforts to identify people affected. The effects on geographically localised communities should be carefully considered; dispersed populations may form important virtual communities.
- Demographic factors such as age and ethnicity may determine the agencies and groups that need to be involved in the response
- The effect on exposed professional groups, including telephone operators and first responders, needs to be considered
- Ongoing criminal, legal, and memorial processes may affect the course of recovery and create additional support needs

London bombings, 2005

In July 2005, terrorist attacks on London's transport system caused 52 deaths and injured over 700 people. At this time, mental health was given little consideration in major incident plans, the expectation being that existing services would be able to manage additional demand. However, a capacity assessment showed that existing psychological trauma centres in London would not cope with a large influx of new patients.³ In August 2005, based on international findings that survivors were unlikely to have their mental health needs recognised unless they were contacted individually, Camden and Islington Mental Health and Social Care Trust and the London Development Centre for Mental Health sought funding for a screen and treat programme.⁴ Innovations included a centralised team that disseminated information about trauma responses, collated information about affected people, and identified those with related mental health difficulties through an outreach and screening programme. Individuals were screened for post-traumatic stress disorder (PTSD) and other problems experienced since the attack, such as depression and phobia,³ with detailed

assessments for people with positive screening results leading to the option of referral for treatment.

This programme confirmed that survivors with mental health problems were unlikely to be detected through conventional routes such as primary care. Access to specialist services was inconsistent; existing referral pathways and financial contracts acted as barriers. The project established that individuals did not mind being contacted through the screening programme, that treatment led to positive outcomes, and that a central team could facilitate equal access to treatment resources and monitor outcomes and costs.⁵

However, lack of central planning led to unclear allocation of responsibility and absence of funding for the extra activity.⁸ There was widespread failure to share data about affected people, even within the NHS, because of a belief that it would breach the Data Protection Act. As a consequence, we do not know how many people were affected by the incidents.

International responses

Mass violence incidents, including terror attacks, are a global problem. There is much potential for learning from responses in other countries. After the terror attacks in Oslo and Utøya Island in 2011, survivors, mainly young people, dispersed across the country. The Norwegian government approved a national primary care based outreach strategy coordinated by the Norwegian Center for Violence and Traumatic Stress Studies, which used crisis teams in each affected municipality. Survivors were identified from a list of those attending a summer camp on the island.⁶ All were contacted directly after the attack and municipalities were recommended to assign each a contact person who would provide initial support, ensure continuity, and set up screening assessments. A follow-up study found that most (84%) had had communication with a contact person in the first four to five months, but this was not maintained; nearly half reported no communication between initial contact and 15 months after the attack.⁷ No contact was associated with lower use of mental health services, and 20% of survivors who did not receive mental health services had clinically important mental distress.⁷ As the attack targeted young people, the response included family members in its outreach, finding they also had high levels of mental distress.⁶ Family outreach was less likely to have occurred if the parents were separated or not Norwegian.⁸

France has had medicopsychological emergency teams (CUMPs) since 1995. These work alongside traditional emergency services providing immediate care for people affected by traumatic events. Outreach activities six months after the 2015 terrorist attacks in Paris, showed that 53.2% of civilian survivors received care from CUMPs within 48 hours. Those

who had received CUMP support were less likely to experience anxiety or depression than people with no immediate contact.⁹ However, among civilians who received at least one psychiatric diagnosis, 70% and 30% of those indirectly and directly threatened, respectively, had received no mental health support.

Supporting citizens affected by attacks while abroad presents further problems. England's Department of Health set up a screen and treat programme for British survivors of the terror incidents in Tunisia, Paris, and Brussels in 2015-16.¹⁰ The programme started more than a year after the first attack, encountering considerable delay because of the lack of existing policies and practice, and was hampered by the unwillingness of commercial organisations and the police to share data on those affected. Of the 483 people identified, roughly 40% returned screening questionnaires to Public Health England, 92% of whom had at least one clinically relevant score, such as for PTSD symptoms.

Manchester Arena, 2017

In May 2017 a bomb was detonated as concertgoers were leaving an event at Manchester Arena. Twenty-two members of the public plus the bomber were killed and over 350 were physically injured. Data access after the attack was problematic, but lists identifying some of those affected were shared between the concert promoter, NHS acute care sector, police, and voluntary and community organisations. A centralised outreach and screening service, the Manchester Resilience Hub, was fully operational within seven weeks, with financing underwritten by local commissioners until a national settlement was agreed.

The service was based on the screen-and-treat design used after London 2005 and Tunisia 2015 and informed by expertise from local military veteran services on responding to incidents involving improvised explosive devices. Based on patients' feedback from earlier incidents, it focused on speed of response; the first people were contacted by telephone within 14 days.

The hub carried out extensive consultation with schools, local services, and the media to share information about trauma responses. As over 80% of those affected live outside Greater Manchester, an online tool was used to support clinical triage; this enabled timely, large scale screening and facilitated regular follow-up. Questionnaires included the Trauma Screening Questionnaire¹¹; Generalised Anxiety Disorder Assessment (GAD-7),¹² Patient Health Questionnaire (PHQ-9),¹² Work and Social Adjustment Scale (WSAS),¹³ Children's Revised Impact of Event Scale (CRIES),¹⁴ and Revised Child Anxiety and Depression Scale (RCADS).¹⁵ Standardised thresholds for clinical relevance were used to identify those in need

of support, alongside risk criteria (suicidal ideation reported on PHQ-9; reporting no current psychological support). Many had clinically significant difficulties at initial registration: 55% of adults met criteria for possible PTSD, and up to 90% had anxiety; 25% of children and young people (8-18 years) had clinically significant depression scores and 83% presented with possible PTSD.

The hub's main role is to give remote support and refer clients to their local services for psychological therapies recommended by the National Institute for Health and Care Excellence.¹⁶ It also conducts some face-to-face assessments for families with complex needs and a limited amount of direct therapy. Therapy is usually provided by existing regional NHS mental health services, but the hub received some charitable donations to fund private therapy for children and young people when NHS services were unavailable or there were unreasonable waiting times. Regional access to specialist trauma focused interventions has been highly variable, particularly for children and young people.

The hub also runs supportive workshop days for families in response to feedback asking for more contact with other affected people. So far, there have been 12 across the country, attended by 485 people (149 of them under 16).

An estimated 15 000 people were at the arena on the night of the attack. But after two years only around 3500 people had registered with the hub, just under a quarter of those present. This highlights the need for further improvements in identification and outreach to those affected. There may be many more affected people who have not registered; as there was no centralised register, a list of people was derived from concert ticket sales, police, and the NHS, but this list did not represent everyone present or potentially affected.]

Where are we now?

Fourteen years after the London bombings, awareness of mental health needs after terrorist attacks has greatly improved and more detailed clinical plans now exist. The Department of Health and regional offices of NHS England have provided clear leadership on the response to attacks. Although formal evidence on how to respond is lacking, messaging targeted at the public coupled with centralised outreach, screening, and monitoring of those affected are accepted as appropriate to prevent untreated morbidity and ensure equality of access to treatment.

Obstacles remain to an effective response. Mental health services are still rarely included in planning exercises for UK emergency responses and there are no pre-agreed funding mechanisms to support the extra administrative, outreach, and treatment costs of

emergencies. The need to seek funds creates additional workload, reduces efficiency, and introduces uncertainty at a time when extra staff and careful future planning are needed. Local trusts should not have to operate at financial risk by providing services before national funding is agreed. Commissioning arrangements should recognise that incidents may require a coordinated national response. However, it is not clear who is responsible for resolving these problems or whether anyone is considering them.

Data sharing barriers within and across organisations continue to impede the identification and clinical management of affected people, despite only a small minority of the public objecting in principle to data sharing.¹⁰ In 2007, non-statutory guidance from the Cabinet Office¹⁷ clarified that it was legal to share personal information that was in the individual's interest, but organisations, including the NHS, remain cautious. For example, in Manchester, emergency services opted to inform staff of available support rather than share staff contact details with the hub. Action from the Information Commissioner's Office, or even legislation, may be needed to overcome entrenched practices and ensure that the 2018 EU General Data Protection Regulation does not further impede care for survivors.

We think a central mechanism to initiate a health register after an incident is crucially important. It is a practical way of bringing together personal data from different organisations such as the police, health services, and commercial organisations, as well as permitting self registration, however dispersed the survivors. Such a register would facilitate subsequent outreach attempts using mobile phones and email. In France, a voluntary register was successfully trialled for French nationals involved in several major disasters.¹⁸ A limited physical health register was adopted after the 2005 London bombings.¹⁹ Public Health England started work on a health register protocol for major incidents in 2012²⁰ but this has not been completed for unknown reasons.

What next?

Although the number of people experiencing mental health effects after major incidents is often greater than the number with physical injuries, and the effects can last much longer, mental health has attracted much less in the way of planning and resources. Clinical understanding about how to support and treat survivors of major incidents is reasonably advanced.^{21 22} However, care is often not being delivered adequately because of organisational and institutional failings. Box 2 sets out our recommendations to improve the UK response. The problem, however, is international, with much wider appreciation needed of the importance of active outreach.

Box 2: Actions to improve mental health response to mass casualty incidents

- Update policy and guidance on designing, planning, and delivering psychosocial and mental health care after incidents and integrate this into pre-incident planning and exercises of all responsible authorities, including schools and colleges
- Identify funding in advance and establish agreements in principle with commissioners to enable local services to activate plans quickly and provide services for sufficient periods
- Revisit the requirements and regulations for effective information sharing across agencies with robust mechanisms agreed in advance to ensure data sharing is frictionless and timely
- Complete and implement plans for a health register to detect as many of those affected as possible and ensure the effective delivery of care

Key messages

- People experiencing terrorism and mass casualty incidents have high levels of untreated psychological morbidity
- Active outreach is often essential to identify all those affected by an event, whether the affected population is local or geographically widespread
- Lack of clarity around financial arrangements and data sharing are impeding mental health responses
- Mental healthcare for adults and children should be incorporated into all advance planning for response to mass casualty incidents
- A central register of survivors is needed to ensure everyone has access to support

Contributors and sources:

KA is a postdoctoral researcher at the Manchester Resilience Hub. PF, PC and AB played central roles in the management of the psychosocial response to the Manchester Arena attack, and the subsequent setup of the Hub, of which PF and PC lead the research component, and AB is the adult clinical lead. DH conducted a process evaluation of the response to the Manchester Arena attack. CB had a central role in the design and implementation of the first formal “screen and treat” response after the 2005 London bombings. RW led development of guidance on psychosocial care for people affected by disasters for NATO, and for the Department of Health (2009), and is Director of the Psychosocial and Mental Health Guidance Project for Improving Care for Pre-Hospital Care Practitioners and First Responders for the Faculty of Pre-Hospital Care in the Royal College of Surgeons of Edinburgh.

AB and KA developed the concept for the article. KA and CB drafted the manuscript, which was reviewed and edited by all other authors.

Competing interests: We have read and understood BMJ policy on declaration of interests and have no relevant interests to declare.

Provenance and peer review: Not commissioned; externally peer reviewed.

<jrn>1 Paz García-Vera M, Sanz J, Gutiérrez S. A systematic review of the literature on posttraumatic stress disorder in victims of terrorist attacks. *Psychol Rep* 2016;119:328-59. [PubMed doi:10.1177/0033294116658243](https://pubmed.ncbi.nlm.nih.gov/doi/10.1177/0033294116658243)</jrn>

<bok>2 Department of Health. NHS emergency planning guidance: planning for the psychosocial and mental health care of people affected by major incidents and disasters: Interim national strategic guidance 30-7-2009. DH, 2009.</bok>

- <unknown>3 Brewin CR, Fuchkan N, Huntley Z. Evaluation of the NHS trauma response to the London bombings: final report to the Department of Health. UCL, 2009.</unknown>
- <jrn>4 Brewin CR, Scragg P, Robertson M, Thompson M, d'Ardenne P, Ehlers A; Psychosocial Steering Group, London Bombings Trauma Response Programme. Promoting mental health following the London bombings: a screen and treat approach. *J Trauma Stress* 2008;21:3-8. [PubMed](#) [doi:10.1002/jts.20310](https://doi.org/10.1002/jts.20310)</jrn>
- <jrn>5 Brewin CR, Fuchkan N, Huntley Z, et al. Outreach and screening following the 2005 London bombings: usage and outcomes. *Psychol Med* 2010;40:2049-57. [PubMed](#) [doi:10.1017/S0033291710000206](https://doi.org/10.1017/S0033291710000206)</jrn>
- <jrn>6 Thoresen S, Jensen TK, Wentzel-Larsen T, Dyb G. Parents of terror victims. A longitudinal study of parental mental health following the 2011 terrorist attack on Utøya Island. *J Anxiety Disord* 2016;38:47-54. [PubMed](#) [doi:10.1016/j.janxdis.2016.01.004](https://doi.org/10.1016/j.janxdis.2016.01.004)</jrn>
- <jrn>7 Stene LE, Dyb G. Health service utilization after terrorism: a longitudinal study of survivors of the 2011 Utøya attack in Norway. *BMC Health Serv Res* 2015;15:158. [PubMed](#) [doi:10.1186/s12913-015-0811-6](https://doi.org/10.1186/s12913-015-0811-6)</jrn>
- <jrn>8 Haga JM, Stene LE, Wentzel-Larsen T, Thoresen S, Dyb G. Early postdisaster health outreach to modern families: a cross-sectional study. *BMJ Open* 2015;5:e009402. . [PubMed](#) [doi:10.1136/bmjopen-2015-009402](https://doi.org/10.1136/bmjopen-2015-009402)</jrn>
- <jrn>9 Vandentorren S, Pirard P, Sanna A, et al. Healthcare provision and the psychological, somatic and social impact on people involved in the terror attacks in January 2015 in Paris: cohort study. *Br J Psychiatry* 2018;212:207-14. [PubMed](#) [doi:10.1192/bjp.2017.63](https://doi.org/10.1192/bjp.2017.63)</jrn>
- <jrn>10 Gobin M, Rubin GJ, Albert I, et al. Outcomes of mental health screening for United Kingdom nationals affected by the 2015–2016 terrorist attacks in Tunisia, Paris, and Brussels. *J Trauma Stress* 2018;31:471-9. [doi:10.1002/jts.22317](#). [PubMed](#)</jrn>
- <jrn>11 Brewin CR, Rose S, Andrews B, et al. Brief screening instrument for post-traumatic stress disorder. *Br J Psychiatry* 2002;181:158-62. [PubMed](#) [doi:10.1192/bjp.181.2.158](https://doi.org/10.1192/bjp.181.2.158)</jrn>
- <jrn>12 Spitzer RL, Kroenke K, Williams JBW, Löwe B. A brief measure for assessing generalized anxiety disorder: the GAD-7. *Arch Intern Med* 2006;166:1092-7. [PubMed](#) [doi:10.1001/archinte.166.10.1092](https://doi.org/10.1001/archinte.166.10.1092)</jrn>
- <jrn>13 Mundt JC, Marks IM, Shear MK, Greist JH. The Work and Social Adjustment Scale: a simple measure of impairment in functioning. *Br J Psychiatry* 2002;180:461-4. . [PubMed](#) [doi:10.1192/bjp.180.5.461](https://doi.org/10.1192/bjp.180.5.461)</jrn>
- <jrn>14 Perrin S, Meiser-Stedman R, Smith P. The Children's Revised Impact of Event Scale (CRIES): validity as a screening instrument for PTSD. *Behav Cogn Psychother* 2005;33:487. [doi:10.1017/S1352465805002419](#)</jrn>
- <jrn>15 Chorpita BF, Yim L, Moffitt C, Umemoto LA, Francis SE. Assessment of symptoms of DSM-IV anxiety and depression in children: a revised child anxiety and depression scale. *Behav Res Ther* 2000;38:835-55. [PubMed](#) [doi:10.1016/S0005-7967\(99\)00130-8](https://doi.org/10.1016/S0005-7967(99)00130-8) </jrn>
- <bok>16 National Institute for Clinical Excellence. Post-traumatic stress disorder: The management of PTSD in adults and children in primary and secondary care (CG26). NICE, 2005.</bok>
- <unknown>17 HM Government. Data protection and sharing—guidance for emergency planners and responders. 2007.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/60970/dataprotection.pdf</unknown>

<jrn>18 Motreff Y, Pirard P, Lagrée C, Roudier C, Empereur-Bissonnet P. Voluntary health registry of French nationals after the Great East Japan earthquake, tsunami, and Fukushima Daiichi nuclear power plant accident: methods, results, implications, and feedback. *Prehosp Disaster Med* 2016;31:326-9. [PubMed](#) [doi:10.1017/S1049023X16000200](https://doi.org/10.1017/S1049023X16000200)</jrn>

<jrn>19 Catchpole MA, Morgan O. Physical health of members of the public who experienced terrorist bombings in London on 07 July 2005. *Prehosp Disaster Med* 2010;25:139-44. [PubMed](#) [doi:10.1017/S1049023X00007871](https://doi.org/10.1017/S1049023X00007871)</jrn>

<jrn>20 Close RM, Maguire H, Etherington G, et al. Preparedness for a major incident: creation of an epidemiology protocol for a health protection register in England. *Environ Int* 2014;72:75-82. [PubMed](#) [doi:10.1016/j.envint.2014.05.003](https://doi.org/10.1016/j.envint.2014.05.003)</jrn>

<jrn>21 Reifels L, Pietrantonio L, Prati G, et al. Lessons learned about psychosocial responses to disaster and mass trauma: an international perspective. *Eur J Psychotraumatol* 2013;4. [PubMed](#) [doi:10.3402/ejpt.v4i0.22897](https://doi.org/10.3402/ejpt.v4i0.22897)</jrn>

<jrn>22 Williams R, Kemp V. Principles for designing and delivering psychosocial and mental healthcare. *J R Army Med Corps* 2018; jramc-2017-000880; Epub ahead of print. [doi:10.1136/jramc-2017-000880](https://doi.org/10.1136/jramc-2017-000880). [PubMed](#)</jrn>